

DETAILED ACTION

Response to Amendment

1. This office action is responsive to the amendment filed on 05/17/2011. Claims 1-5 have been canceled and accordingly claims 6-25 are currently pending in this application.

Response to Arguments

2. Applicant's arguments, see page 6-11 of the remarks, filed on 05/17/2011, with respect to the rejection(s) of 112 second paragraph of claim 20 is persuasive, the 112 rejection of claim 20 has been withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Mueller on 5/27/2011.

Claim 11 has been canceled.

6. (Previously presented) A device for damping oscillations of a combustion chamber comprising:

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at least one resonator structured ~~and~~ arranged to dampen vibrations ~~being connected to~~ in fluid communication with a pre-chamber,

an injector head having at least one passage channel, an open area and at least one injector element, the injector element extended through the open area to supply fuel to the combustion chamber.

wherein the pre-chamber is connected to the combustion chamber to dampen vibrations via the at least one passage channel.

7. (Currently amended) The device of claim 6, wherein the combustion chamber adjoins ~~an~~ the injection head ~~having at least one injection element.~~

8. (Currently amended) The device of claim 7, wherein the injection head conducts ~~a~~ the fuel flow into the combustion chamber.

12. (Currently amended) The device of claim 6, wherein the at least one passage channel is part of ~~an~~ the injection element.

14. (Currently amended) A system for damping oscillations, the system comprising:

a combustion chamber;

an injection head having at least one injector tube to inject fuel to ~~arranged upstream of~~ the combustion chamber;

a pre-chamber ~~arranged upstream of~~ supply the fuel to the injection head; and

at least one resonator structured and arranged to dampen vibrations of the combustion chamber and comprising one of:

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an opening in fluid communicating with the pre-chamber; and

an opening in fluid communicating with an open area of the injection head.

25. (Previously presented) A system for damping oscillations of a rocket engine, the system comprising:

a combustion chamber;

an injection head having at least one injector tube to inject fuel to ~~arranged upstream of~~ the combustion chamber;

a pre-chamber ~~arranged upstream of~~ supply the fuel to the injection head; and
at least one resonator structured and arranged to dampen vibrations of the combustion chamber and comprising one of:

an opening in fluid communicating with the pre-chamber; and

an opening in fluid communicating with an open area of the injection head.

Allowable Subject Matter

4. Claims 6-10 and 12-25 are allowed.

5. The following is an examiner's statement of reasons for allowance:

6. The prior art fails to disclose or render obvious of a device for damping oscillations of a combustion chamber comprising at least one resonator structured having an opening in fluid communication with the pre-chamber or an open area of the injector head arranged to dampen vibrations in fluid communication with a pre-chamber in combination with other claimed limitations.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUTTHIWAT WONGWIAN whose telephone number is (571)270-5426. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EHUD GARTENBERG can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/P. W./
Examiner, Art Unit 3741

/LOUIS CASAREGOLA/
Primary Examiner, Art Unit 3741